

Definitions:

generator (132)
inductance (133)
magnetic flux (131)
tesla (124, 131)
transformer (133)

Discoveries:

1. How can a magnetic field be used to propel electrons through a wire? (129)
2. What formula predicts the magnetic emf, and what are its limitations? (129, 130, 130b)
3. When a conductor moves through a magnetic field, how is the work done on the conductor related to the electrical energy generated? (130)
4. State Faraday's Law. (132)
5. Describe all of the ways in which one can change the flux surrounded by a wire loop. (132)
6. Which of those methods is the basis for: (132, 133)
 - a. generators?
 - b. transformers?
7. State the "Inductor Law". (133)
8. Formula for stored magnetic energy: (134)
9. Transformers: (133, 134)
 - a. How must an ideal transformer's input and output power compare?
 - b. How can a transformer's output to input voltage ratio be predicted?
 - c. How can an efficient transformer's output to input current ratio be predicted? (134)
 - d. Impedance ratio? (134)
 - e. How can the direction of an induced current be predicted? (Lenz's law, p. 131)
10. What device has a linear graph of impedance vs frequency, and what is the slope of that graph? (133)
11. How can you make a device with low impedance at one frequency and high impedance at all other frequencies? --How can that special frequency be predicted? (134)
12. How can you make a device with high impedance at one frequency and low impedance at other frequencies, and how can its special frequency be predicted? (134)